

IN THE CLAIMS

*The status of the claims as presently amended is as follows:*

1. (*Currently Amended*) An array speaker system in which a plurality of speaker units arranged in an array are supplied with signals having prescribed time differences are supplied to a plurality of speaker units arranged in an array so as to perform directivity to control the directivity of an audio signal beams emitted from the speaker units, said array speaker system comprising:

a delay memory having a plurality of delay taps for delaying [[an]] input audio signals in units of [[a]] sampling periods;  
interpolation processing means for outputting delay-imparted signals based on the input signals from the delay taps of the delay memory;  
means for supplying the delay-imparted signals from the interpolation processing means to the speaker units; and

[[a]] control means for calculating a delay time[[s]] to be applied to the applied to a signal[[s]]-respectively-supplied to output to each of the speaker units; and,

an interpolation processing means for performing interpolation processing on output of the delay memory based on the delay times calculated by the control means,

wherein an output of the interpolation processing means is supplied to each of the speaker units,

wherein the interpolation processing means includes two multipliers for multiplying outputs of two of the delay taps from the delay memory by coefficients supplied from the control means and an adder for adding outputs of the two multipliers with respect to each speaker unit, and

wherein the control means divides the calculated delay time by the sampling period, and selects the two delay taps from the delay memory on the basis of a position corresponding to a division result so that outputs thereof are supplied to the two multipliers, to set the coefficients for performing linear interpolation based on the division result with respect to the multipliers.

2-3. (*Canceled*)

4. (*Original*) An array speaker system according to claim 1, wherein an FIR low-pass filter is formed using the delay memory and the interpolation processing means.

5. (New) An array speaker system in which a plurality of speaker units arranged in an array are supplied with signals having time differences to control the directivity of audio signal beams emitted from the speaker units, said array speaker system comprising:

a delay memory having a plurality of delay taps for delaying input audio signals in units of sampling periods;

interpolation processing means for outputting corresponding delay-imparted signals based on the input signals from the delay taps of the delay memory;

means for supplying the delay-imparted signals from the interpolation processing means to the speaker units; and

control means for calculating a delay time supplied to a signal output to each of the speaker units,

wherein the interpolation processing means includes at least three multipliers for multiplying outputs of at least three delay taps selected from the delay memory by coefficients supplied from the control means and an adder for adding outputs of the at least three multipliers with respect to each speaker unit, and

wherein the control means divides the calculated delay time by the sampling period, and selects the at least three delay taps from the delay memory on the basis of a position corresponding to a division result so that outputs thereof are supplied to the at least three multipliers, to set the coefficients for performing Lagrange's interpolation of two or more orders based on the division result with respect to the at least three multipliers.